

CLAIMS

What is claimed is:

15/ 1. An apparatus for cleaning a spraying end of a paint sprayer, said apparatus comprising:

5        a solvent vessel having an opening and containing a solvent at a solvent level, said opening configured to receive the spraying end of the paint sprayer;

—        a rotatable brush only partially submerged in the solvent, the spraying end contacting said brush when the spraying end is inserted into said opening;

10        a motor operably interconnected with and operable to selectively rotate said brush; and

      a signal generator operable to provide an actuation signal that activates said motor, thereby rotating said brush wherein upon contact of the spraying end with said rotating brush, said brush cleans paint from the spraying end by applying the solvent to the spraying end.

15        2. The apparatus of claim 1, wherein said brush includes a plurality of flexible bristles.

20        3. The apparatus of claim 1, wherein a portion of said brush is below the solvent level and a portion of said brush is above the solvent level, and wherein the spraying end contacts said portion of said brush that is above the solvent level.

4. The apparatus of claim 1, wherein said motor is configured to  
rotate said brush in alternating directions in response to sequential insertions of  
the spraying end through said opening.

5 5. The apparatus of claim 1, wherein said motor comprises a  
pneumatic motor.

6. The apparatus of claim 1, wherein said brush rotates about a  
substantially horizontal brush axis, and wherein the spraying end is insertable into  
10 said opening substantially perpendicularly to said brush axis.

7. The apparatus of claim 1, wherein said brush rotates about a  
substantially horizontal brush axis, and wherein said brush axis is below the  
solvent level.

15 8. The apparatus of claim 1, wherein the spraying end contacts an  
outer surface of said brush.

9. The apparatus of claim 1, wherein said solvent vessel includes a  
20 top wall and wherein said opening is in said top wall and is smaller than said top  
wall.

10. The apparatus of claim 1, wherein said signal generator comprises  
a limit switch actuatable to provide the actuation signal in response to insertion of  
25 the spraying end into said opening.

11. A method for cleaning a spraying end of a paint spray gun, the method comprising:

providing a solvent vessel having an opening and defining a chamber, the chamber containing a solvent at a solvent level

5 Partially submerging a rotatable brush in the solvent within the vessel such that a portion of the brush is above the solvent level; inserting the spraying end of the paint spray gun into the chamber through the opening;

10 rotating the brush; engaging the spraying end with the exposed portion of the brush; and removing paint from the spraying end in response to the application of the solvent to the spraying end by the brush.

12. The method of claim 11, further comprising sensing said insertion of the spraying end into the chamber, and wherein said act of rotating occurs in response to sensing said insertion.

13. The method of claim 11, wherein said act of rotating includes operably connecting a motor to the brush, said method further comprising:

20 providing a limit switch that operates in response to said insertion of the spraying end into the chamber; sensing said insertion with the limit switch; and activating the motor in response to said sensing of said insertion.

14. The method of claim 11, wherein said act of rotating includes rotating the brush in one direction upon said insertion of the spraying end, and rotating the brush in an opposite direction upon a subsequent insertion of the spraying end.

15. A paint spraying system for electronically controlled painting of a product, said system comprising:

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an enclosure;

5 a conveying apparatus for conveying the product through said enclosure;

an electronic controller;

10 a manipulator within said enclosure and operating in response to signals received from said electronic controller;

a paint spraying nozzle coupled to said manipulator, said manipulator operable to provide movement in a plurality of directions to said paint spraying nozzle;

15 a cleaning box within said enclosure, said cleaning box defining a chamber that contains a solvent at a solvent level and houses a partially submerged rotatable brush having an exposed portion that is above the solvent level, said box also including an opening communicating with said chamber; and

a signal generator communicating with said rotatable brush, said rotatable brush rotating in response to an actuation signal provided by said signal generator;

20 wherein in response to receiving a cleaning signal from said controller, said manipulator inserts said paint spraying nozzle through said opening and into said chamber, wherein said signal generator selectively signals said brush to rotate, and wherein said nozzle contacts said exposed portion of said brush to clean paint from said nozzle.

16. The system of claim 15, further comprising a motor mechanically coupled to said rotatable brush and communicating with said signal generator, said motor operating in response to said actuation signal from said signal generator to rotate said brush.

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17. The system of claim 15, wherein said motor comprises a pneumatic motor.

18. The system of claim 15, wherein said brush rotates about a substantially horizontal brush axis, and wherein said nozzle is insertable into said opening substantially perpendicularly to said brush axis.

19. The system of claim 15, wherein said brush is configured to rotate in alternating directions in response to sequential insertions of said nozzle into said opening.

20. The system of claim 15, wherein said signal generator comprises a limit switch actuatable to provide said actuation signal in response to insertion of said nozzle into said opening.

21. An apparatus for cleaning a spraying end of a paint sprayer, said apparatus comprising:

a solvent vessel having an opening and containing a solvent at a solvent level, said opening configured to receive the spraying end of the paint sprayer;

5 a rotatable brush having an exposed portion that is above the solvent level and a submerged portion that is below the solvent level, the spraying end contacting said exposed portion when the spraying end is inserted into said opening;

10 a motor operably interconnected with and operable to selectively rotate said brush; and

a limit switch engaged by the paint sprayer when the spraying end is inserted into said opening to activate said motor wherein said brush cleans paint from the spraying end by applying the solvent to the spraying end.

15 22. The apparatus of claim 21, wherein said brush includes a plurality of flexible bristles.

23. The apparatus of claim 21, wherein said motor is configured to rotate said brush in alternating directions in response to sequential insertions of 20 the spraying end through said opening.

24. The apparatus of claim 21, wherein said motor comprises a pneumatic motor.

25. The apparatus of claim 21, wherein said brush rotates about a substantially horizontal brush axis, and wherein the spraying end is insertable into said opening substantially perpendicularly to said brush axis.

5 26. The apparatus of claim 21, wherein the spraying end contacts an outer surface of said brush.

27. The apparatus of claim 21, wherein said solvent vessel includes a top wall and wherein said opening is in said top wall and is smaller than said top wall.

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